

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Appl. No. 09/987,376

REMARKS

Upon entry of this Amendment, claims 35-63 are all the claims pending in the application. Claims 1-34 have been canceled. Claim 63 has been added.

I. Claim Objection

The Examiner has objected to claims 38, 39, 45, 46, 48-50, 52, 53, 61 and 62 for minor informalities. In particular, the Examiner asserts that the preamble for the above claims sets forth a “method” whereas the preamble for their respective base claims sets forth a “filter assembly.” Accordingly, Applicant has amended the above claims by replacing the term “method” with the phrase “filter assembly.”

Withdrawal of the objection is kindly requested.

II. Claim Rejection under 35 U.S.C. § 112, second paragraph

Claims 40 and 54 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In particular, the Examiner asserts that the phrase “premask filter” lacks proper antecedent basis. Accordingly, Applicant has amended claims 40 and 54 by replacing the phrase “premask filter” with “mask filter”, thereby providing proper antecedent basis.

Withdrawal of the rejection under 35 U.S.C. § 112, second paragraph, is kindly requested.

III. Claim Rejection under 35 U.S.C. § 103(a)

Claims 35-39, 41-46, 48-53, and 55-62 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Ko et al. (JP 2001-060804) in view of Arakawa et al. (US 6,356,170).

With respect to the merits of the rejection, the Examiner applies Ko for the teaching of a block resonator having three corners of which are scraped away and probes for inputting and outputting signals (see Fig. 3). The Examiner recognizes that Ko does not teach a tuning element for the claimed block resonator. In an attempt to cure this deficiency, the Examiner applies Arakawa. For the reasons set forth below, however, Applicant submits that even if the Arakawa and Ko references were combined, the result would not meet all of the requirements of the claims.

Specifically, regarding the tuning technique taught by Arakawa, Arakawa discloses a ceramic block resonator covered with a metal film. Arakawa further discloses that the resonant frequency (or frequencies - for the dual-mode version) can be tuned by the addition of an unplated through-hole or recess, and that the addition of this through-hole or recess causes an increase in the resonant frequency (Col. 3, lines 42-58). This is the main technique taught by Arakawa.

However, Arakawa also discloses that to adjust the resonance frequency, removal of an area of, for example, 2mm square, from the conducting film must be performed. Additionally, the change in frequency is about 1000 ppm when a metallic element is placed near the above removed portion of the conducting film (Col. 4, lines 1-14). Accordingly, to tune the resonance frequency according to Arakawa, additional metallic material must be placed near the area from which an area of the resonator is removed. This is entirely contrary to the claims.

Specifically, as disclosed and claimed in the present application, the resonance frequency of the block resonator is completely determined, i.e., tuned, by the magnitude of the void left when material is removed from the resonator. Independent claim 35 has been amended to clarify this feature.

According to the claimed invention, the resonant frequency is adjusted, higher or lower, depending on the pattern formed by the removed metal. Unlike Arakawa, a metal tuner near the removed metal is not needed, nor desired, to adjust the frequency. The magnitude alone of the removed area controls the magnitude of the frequency shift according to the present invention. Also, as set forth in new claim 63, the pattern of the removed metal determines whether the frequency shift is positive or negative. Accordingly, the tuning technique disclosed in Arakawa is substantially different from what is claimed in the present application. For the reasons set forth above, specifically since neither Arakawa nor Ko teach or suggest the claimed tuning element that completely determines a magnitude of a shift in the resonant frequency, claims 35-62 are patentable over the cited prior art of record. Withdrawal of the §103 rejection is, thus, kindly requested.

IV. Provisional Double Patenting Rejection

Claims 35-39, 41-53, and 55-62 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 2, 4, 6-8, 24, 28, 30 and 34 of co-pending Application No. 09/987,353 in view of Arakawa (US 6,356,170).

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Since this rejection is *provisional* on claims in a co-pending application that has not been finalized, a further response to the same would be premature. Accordingly, Applicant respectfully requests that the Examiner hold the provisional rejection in abeyance until the application is otherwise placed in condition for allowance.

V. Patentability of New Claims

For additional claim coverage merited by the scope of the invention, Applicant has added new claim 63. Applicant submits that the prior art of record does not disclose, teach, or otherwise suggest the combination of features contained therein. Claim 63 depends from claim 35. Accordingly, claim 35 is patentable at least for the same reasons as set forth above in regard to claim 35. Additionally, none of the prior art references teach or otherwise suggest a tuning element comprising a void, wherein the pattern of the void determines whether a frequency shift in the resonant frequency is positive or negative.

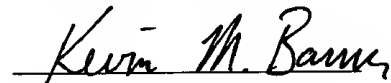
Conclusion

In view of the foregoing remarks, the application is believed to be in form for immediate allowance with claims 35-63, and such action is hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, he is kindly requested to **contact the undersigned** at the telephone number listed below.

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The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

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